

Written Opinion of the Inter-
national Searching Authority

PCT/EP2004/052865
Appended Sheet

Re Point V

Reasoned statement with regard to novelty, inventive step, and industrial applicability; citations and explanations supporting this statement

1. The only independent claim relates to a device for measuring the pressure in a gas mixture.
2. Such a device is known from EP-A-1 139 096, which is regarded as the most proximate related art, and from which the claims are delimited. This document describes a device for measuring the pressure in a gas mixture (column 19, lines 54-56) having an amperometric sensor 2 that works on the limiting current principle, which has two electrodes, mounted on a solid electrolyte, that have a direct voltage applied to them (column 4, lines 31-34, 47-48; column 11, line 57 – column 12, line 1), of which one electrode is shielded by a diffusion barrier 9, 9' (Figures 8a, 8b; column 8, lines 44-45) and having a measuring element for measuring the limiting current flowing via the electrodes, as a measurement for the gas pressure (column 12, lines 1-5, 26-40).

Therefore, the subject matter of Claim 1 differs from the known device in that means are provided that fixes the mole fraction of a gas component drawn upon for the pressure measurement to a constant 100%, before [upstream of] the diffusion barrier.

Therefore, the subject matter of Claim 1 is novel
(Article 33 (2) PCT).

3. The known device has the disadvantage that the pressure measurement of a gas mixture, in which the concentration of gas components fluctuates as a function of time, is inaccurate.

Accordingly, the object is to achieve a more accurate pressure measurement for gas mixtures in which the concentration of gas components is not constant.

This object is attained in that the mole fraction of a gas component, that is drawn upon for the pressure measurement, is held to 100% before the diffusion barrier, during the measuring phase. Thus, at the diffusion barrier, the pure gas component drawn upon for the pressure measurement is present.

None of the documents of the Search Report gives a hint of such a fixing of the mole fraction of the gas component before the diffusion barrier. Therefore, the design approach is based on an inventive activity (Article 33(3) PCT).

4. Since the industrial applicability is obvious, all the requirements of Article 33 PCT are satisfied.

5. Claims 2 through 20 are dependent on Claim 1, and therefore, they also fulfill the PCT requirements with regard to novelty and inventive activity.